INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1997	**Park:** Shenandoah NP
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Permit#:
SHEN1997AUMI

Park-assigned Study Id. #:
unknown

Project Title:
Managing Ailanthus altissima At The Shenandoah National Park: Evaluation Of Herbicide Tank Mixes For Low Volume Basal Applicaitons (N-220)

Permit Start Date: Jan 01, 1998	**Permit Expiration Date** Jan 01, 1998
Study Start Date: Jan 01, 1997	**Study End Date** Jan 01, 1998

Study Status:
Completed

Activity Type:
Research

Subject/Discipline:
Other

Objectives:
1. Determine the most effective chemical control treatment for Ailanthus among mixtures of triclopyr ester (Garlon 4), imazapyr (Stalker) and picloram (Tordon K) applied as a low-volume basal spray.;2. Determine if native herbaceous species can be successfully established by reseeding in areas where Ailanthus has been controlled.

Findings and Status:
Four replicate blocks of plots were established along the Skyline Drive in June and July of 1997. Three blocks were located immediately south of the intersection with Route 33 and the fourth near mile marker 101. Each block included 10 treatment plots: 9 chemical mixtures and a manually cut control plot. On August 19, 1997, preliminary control data were collected by counting treated stems in each plot that were still foliated and calculating the percent of the number of stems treated that were defoliated by the treatments. A one-way ANOVA was used to determine the effects of chemical mix on initial defoliation.;Garlon 4 at 20% V/V, alone and in mixtures with Tordon K and 1% Stalker, were all equally effective in defoliating Ailanthus approximately 1.5 months after application. The percent defoliation for these treatments ranged from 94% to 100%. The treatments that included 15% Garlon + 3% Stalker, 20% Garlon + 3% Stalker, and 10% Stalker alone caused significantly less defoliation at 75% to 78%. At the time of the evaluation, 25% to 50% of the manually cut stems had already resprouted, while none of the chemically treated stems had resprouted from the base. Many plots were already exhibiting a flush of herbaceous growth under the treated stems, even though no reseeding was done.;The early defoliation data may give some indication of potential control but is frequently not conclusive. In some cases, chemical treatments that cause rapid defoliation can ultimately reduce stem and root kill as a result of decreases in translocation of the herbicides to the root systems. A final assessment of percent stem kill, resprouting, and herbaceous plant development will be conducted in July of 1998.

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?
No

Funding provided this reporting year by NPS:	**Funding provided this reporting year by other sources:**

0	2000
Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college	
Full name of college or university:	**Annual funding provided by NPS to university or college this reporting year:**
n/a	0